

**REMARKS****I. Status of the Claims**

Claims 1-10, 27-50, 52, 54 and 55 are currently pending. Claims 1-5, 7-10, 36, 38-49, and 54-55 have been allowed.

By this Amendment, claims 6, 29, 37, 50 and 52 have been canceled without prejudice or disclaimer. Upon entry of this Amendment, claims 1-5, 7-10, 27, 28, 30-36, 38-49, 54 and 55 would be pending.

**II. Objections to the Claims**

Claim 29 has been objected to as containing informalities, namely that the specification and drawings do not support an X-ray source with an aperture disposed on the second end of the X-ray source. Claim 29 has been canceled rendering this objection moot.

**III. Rejections under 35 U.S.C. §103(a)**

Claims 6, 37, 50 and 52 have been rejected under 35 U.S.C. §103 as being unpatentable over U.S. Patent No. 5,848,119 to Miyake in view of U.S. Patent No. 5,937,026 to Satoh. Claims 27 and 29-35 have been rejected under 35 U.S.C. §103 as being unpatentable over Miyake. Applicants respectfully traverse the rejection of these claims for the reasons set forth below.

Claims 6, 29, 37, 50 and 52 have been canceled rendering the rejection of these claims moot.

As to the remaining rejected independent claim 27, this claim is directed an X-ray fluorescence system having an X-ray element with a first end and a second end; an aperture

disposed on the second end of the element; and a vacuum source connectable to the aperture for evacuating the aperture.

On the contrary, Miyake shows a system in which various components, such as radiation source 41, mirror 42, aperture member 51, etc., are maintained in a vacuum container 56. Miyake, implicitly or explicitly, is silent as to any vacuum source connectable to an aperture for evacuating the aperture and provides no teaching for such a modification. This is acknowledged by the Examiner in the Office Action on page 5.

The Examiner alleges that

It would have been obvious to one of ordinary skill in the art at the time of the invention to have a vacuum source connectable to the aperture for evacuating the aperture since this is functionally equivalent; both apertures are in a vacuum. (Office Action, pages 4-5)

However, the Examiner's rationale still does not overcome the initial burden required to make a showing of prima facie case of obviousness. In particular, the Examiner provides no objective support in the prior art as to the feature of a vacuum source connectable to an aperture for evacuating the aperture or as to the motivational rationale for modifying Miyake to include such a feature. It is apparent that the Examiner's allegations of equivalency are simply the unsupported opinion of the Examiner and are based on impermissible hindsight of Applicants' disclosure.

Accordingly, claim 27 and its dependent claims are patentably distinguishable over the cited reference. Reconsideration and withdrawal of the rejection of these claims are respectfully requested.

**CONCLUSION**

Based on the foregoing amendments and remarks, Applicants respectfully request reconsideration and withdrawal of the rejection of claims and allowance of this application.

**AUTHORIZATION**

The Commissioner is hereby authorized to charge any additional fees which may be required for consideration of this Amendment to Deposit Account No. 13-4503, Order No. 4451-4001. A DUPLICATE OF THIS DOCUMENT IS ATTACHED.

In the event that an extension of time is required, or which may be required in addition to that requested in a petition for an extension of time, the Commissioner is requested to grant a petition for that extension of time which is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to Deposit Account No. 13-4503, Order No. 4451-4001. A DUPLICATE OF THIS DOCUMENT IS ATTACHED.

Respectfully submitted,  
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Dated: October 20, 2003

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